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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,489	04/30/2001	David Bach	20816/2	2352

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Clifford H. Kraft  
320 Robin Hill Drive  
Naperville, IL 60540

EXAMINER

CHEU, CHANGHWA J

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/845,489

Applicant(s)

BACH ET AL.

Examiner

Jacob Cheu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 90-94 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 90-94 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Applicant's remarks filed on 3/1/2006 has been received and entered into record and considered.

1. Claims 90-94 are under examination.
2. Claims 1-89 and 95-101 are cancelled.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The rejections of claims 90-94 under 35 U.S.C. 102 (e) as being anticipated by Pfost et al. (US 6485690) as evidenced by Murray et al. (US 4752115) are maintained.

Pfost et al. teach a multi-layered fluid array for high throughput chemical synthesis and biological assay and/or processing. The multi-layered layer fluidic device comprises-

1. a top outer layer containing at least one fluid port (see Figure 4 and 5);
2. a fluidics layer below said top outer layer containing at least one fluidics channel in fluid communication with said port (see Figure 6-10).

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Pfost et al. also teach that “any of the layers in the processor can incorporate electronic or optical elements including, for example, transistors, memory cells, capacitors, resistors, LED's, fiber optics “ (Col. 11, line 40-45)(emphasis added).

Although Pfost et al. do not explicitly disclose the details of the fiber optic structure, it is well known to one ordinary skill in the art that the fiber optics are composed of two cladding layers and waveguide core as *evidenced* Murray et al. wherein Murray et al. teach that said fiber optic waveguide having a core layer surrounding by a cladding layer (See claims 12-13; Col. 2, line 25-35; Col. 3, line 21-30).

Pfost et al. also teach each layer can incorporating illuminating exiting source coupled with waveguide (Col. 11, line 47-50).

Pfost et al. teach using fluorescent tags placing in said fluid port when transferred by the fluid channel into reaction well (micro-cuvette) for detection from appropriate light source illuminating (Col. 1, line 35-45).

With respect to claims 91-92, Pfost et al. teach using plurality of micro-cuvettes (reaction wells)(see Figure 9, Col. 11, line 40-45) as evidenced by Murray et al. (see claim 12-13; Col. 2, line 25-35; Col. 3, line 21-30).

With respect to claim 93, the device taught by Pfost contains a bottom supporting layer below the cladding layer (See Figure 4 and Figure 5).

With respect to claim 94, the bottom supporting layer is also optically transparent to light illumination (See Figure 9; Col. 11, line 40-45).

***Response to Applicant's Arguments***

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1. Applicant argues that (1) examiner made an improper 102 anticipation rejection because an additional reference (as evidenced by Murray et al.) was used; (2) Pfof teaches away from an optical structure or not teaching any of his structure conducting lights and (3) Murray et al. reference is not pertinent to biological sensor because it teaches detecting oxygen.

Applicant's arguments have been considered but are not persuasive.

(1) The combination of a secondary reference does not violate the principle of 102 anticipation rejection.

The gist of combining Murray et al. reference is not to supply a secondary reference for a missing element as indicated by the case law cited by the applicant (In re Donohue, 226 USPQ 619 and Studiengesellschaft Hohle v. Dart Indus 220 USPQ 841). Rather Murray et al. patent is to show that one of ordinary skill in the art would know that "fiber optics" is generally understood as a waveguide having a core surrounding by cladding layers. Supra. The matter of "fiber optics" is inherently a waveguide having core and cladding layers.

(2) Pfof et al. do not teach away of using "fiber optics" and use light conduction.

Examiner would draw applicant's attention to Col. 11, line 40-55-

" Also, any of the layers in the processor can incorporate electronic or optical elements including, for example, transistors, memory cells, capacitors, resistors, LED's, fiber optics, lenses, micro lenses, phase gratings, computer chips, bells, tuning forks, acoustical wave detectors, edge connectors, surface connectors, or any other means or mechanism of detection, processing, thermal sensing, heating, cooling, exciting, probing, detecting, separating or chemically modifying the samples. Any layer may

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include these elements with or without liquid elements. Any of the layers may also include both liquid and non-liquid elements, and may include means for the liquids to come into contact with non-liquid elements. Any of the layers may also have edge, or in-plane fluidic delivery such as the fluidic edge connector embodiments shown in FIGS. 23 and 26.

FIG. 32 illustrates a processor 220 which utilizes one layer 221 which is primarily non-fluidic. For example, layer 221 has a plurality of light emitting detector elements 222 arranged in pairs.

The teachings of Pfof et al. clearly show that the multi-layered fluidic array is coupled with detection means, including exciting light emitting detector or using fiber optics.

(3) Murray et al. reference is pertinent 102 reference.

The assertion of non-pertinent to combine Pfof et al. with Murray is immaterial for 102 anticipation analysis (emphasis added). The rejection is focused on 102 anticipation, not 103 obviousness rejection. Regardless of whether Murray et al. is a pertinent reference as to suggestion or motivation, the essence of the teaching is to show one ordinary skill in the art would know that "fiber optics" is a "waveguide having cladding and core layers".

### Conclusion

3. No claim is allowed.
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Cheu whose telephone number is 571-272-0814. The examiner can normally be reached on 9:00-5:00.

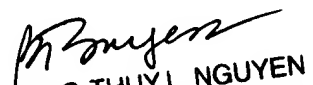
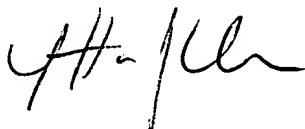
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Cheu

Examiner

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BAO-THUY L. NGUYEN  
PRIMARY EXAMINER  
3/18/06

March 7, 2006